

EXHIBIT 7

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Granada Research

Using the UNSPSC

United Nations Standard Products and Services Code

White Paper

Why Coding and Classifying Products is Critical to Success in
Electronic Commerce

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Executive Summary

Coding products and services according to a standardized classification convention is necessary for streamlining commerce among companies. Products and services that are unambiguously identified with industry-agreed upon names allows purchasing management to effectively source and analyze expenditures. In addition, machine-readable product names assists marketing and sales functions to find customers and provide better customer and distribution channel services.

*Codes automate buy
& sell processes*

By inserting the codes in various electronic trade documents and media such as product catalogs, Web sites, purchase orders, invoices, inventory/sales advices, and others, computer applications throughout an extended supply chain (seller, buyer, distributor, independent sales representative, end user) can process transaction data automatically and can perform management, analysis and decision functions in time-critical and labor-efficient ways that would not be possible without the codes.

*Hierarchy allows
custom analysis*

A useful product classification scheme must be hierarchical, so that individual commodities represent unique instances of larger classes and families. Hierarchical organization allows a given company to focus on a level of specificity that best suit its purposes and situation. Most product coding schemes today, such as the UCC and EAN bar codes, are not hierarchical and therefore will not serve the purposes of search, analysis, and product awareness. These identification codes are unable to be rolled up into categories that are more general and individual codes have no relation to other codes.

*United Nations
Standard Product and
Services Code is a
premier open standard*

In addition to maintaining a hierarchical taxonomy, a classification scheme must be constantly maintained (to add new products and modify existing structures to adapt to changing market offers), it must be responsive to industry (because delays hurt business), and code assignments to products and services must be impartial (to prevent unfairly promoting one company's products at the expense of others).

Dun & Bradstreet, a 160-year old leader in developing standards in the information and financial industries, has taken on the critical role of developing and maintaining a coding standard for products and services. The United Nations Standard Products and Services Code, called the UNSPSC, was developed by D&B in conjunction with the United Nations. The code is the only truly universal coding scheme that meets all the requirements. It is recommended that companies use this code to electronically identify their own products and to identify the products that the company purchases in its day-to-day operations.

*Standardized tags
will be common*

Whether companies want to identify their products using a code or not, is moot. The rapid rise of electronic commerce, particularly over the Internet, and the development of new technological capabilities (such as XML, search engine and data-mining tools) makes coded product documents inevitable. Furthermore, government buying organizations are requiring it.

Background: From Electronic Transactions to Strategic Decisions

The Internet, EDI and product identification (including bar code) standards have led to wide scale transaction automation, yet the *content* of transactions – i.e. descriptions and names of the products and/or services that are being sought, bought, and delivered – has largely gone without standardization. Descriptive information about products is important for the automatic marketing, discovery, and analysis of product purchases – activities that are becoming common practice within sales and purchasing functions of companies.

With product information in processable Web pages and files, product information originates with the supplier of the product, and then automatically circulates throughout networked electronic systems (on the Web, Internet, and proprietary networks). The product identification tags populate catalogs, directories, search engines, and enterprise applications that are operated by customers, distributors, publishers, and resellers.

"Meta data" standards for product information benefit all players in a supply chain.

- **Enterprise Purchasing Groups and Related Functions.** The common identifier allows receivers of product information to compile and aggregate information from multiple sources yet maintain a unified framework for search and analysis. Purchasing groups have difficulty in efficiently managing the numerous low-value purchase transactions for non-production and non-resale goods inventories and outside services. In fact, most companies have little knowledge on the spending volumes for supplies and other non-production goods. Product classification standards allow purchasing groups to identify and select strategic suppliers and, using controllable search engines and catalogs, to direct employees to make purchases from these suppliers automatically.
- **Manufacturers,** using standardized codes, can leverage the global interconnected electronic infrastructure (including the Web, Internet, and other inter-company networked applications) to market their products. Automatic dissemination of product information reaches greater numbers of potential buyers at a fraction of the cost of printed collateral and catalogs. In addition, electronically readable codes insure greater accuracy and productivity in communications with channel partners (including distributors, dealers, representatives, and resellers). Codes minimize returns, allow better inventory management and forecasting, and allow the collection of standardized market share information.
- **Distributors, Resellers, and other Channel Partners,** who provide pre- and post-sale technical support on tens of thousands of SKUs, must grapple with disparate forms of product information collected from hundreds of manufactures with no common taxonomy. The lack of product information standards makes the current aggregation and dissemination of such content an expensive and inefficient proposition - an effort duplicated by each distributor in the channel. With standardized machine-readable product descriptors, this enormous headache goes away.

Standards for automating transactions is here to stay. Standards for describing the content of commercial transactions is the next frontier of electronic commerce. Just as standards such as HTML and TCP/IP have led to the enormous success of the Internet, so too will product and service coding standards lead to a new level of cybernetic electronic commerce.

Why Classify Products and Services?

Classifying products and services with a common coding scheme facilitates commerce between buyers and sellers and is becoming mandatory in the new era of electronic commerce. Large companies are beginning to code purchases in order to analyze their spending. A recent study⁷ found that over half the companies surveyed used commodity codes – several had complex codes of 10 or more categories. Most companies with procurement card programs have embarked on coding expenditures.

Nonetheless, most company coding systems today have been very expensive to develop. They typically take up to a year to create and, for each new item coded, it takes on average an hour and a half to assign a code. A company's suppliers usually don't adhere to the coding schemes of their customers – if they assign codes at all.

Much duplicated effort and expense has gone into making codes. If there was a single universal coding convention that all companies could draw from – even if the companies wanted to customize it for specific purposes – there would be a great deal of savings.

For Finding and Purchasing

A product and service coding convention brings many benefits to the purchasing function of a company. These benefits are listed in Table 1.

Table 1. Classifying products and services supports procurement activities.

Pros	Cons
Enables buyers and employee-requisitioners to find all suppliers of a given category	Requires up-front effort to apply codes (can be done by third party)
Enables purchasing managers to analyze expenditures and perform strategic sourcing	
Consistent coding across company divisions, suppliers, and information systems gives uniform picture of company expenditures.	
Integrates procurement card statement categories with all purchase transactional data.	
One numbering system integrates entire processing flow -- from RFPs, to ordering, to accounts payable, to general ledger.	
Facilitates control over and compliance to spending limits and authorized commodities by individuals and departments.	
A standardized, already devised code is easy to implement and saves the company time and expense in developing its own.	

Product discovery. A common naming convention allows computer systems to automatically list similar products under a single category. When a person is searching for the category, he or she finds precisely the things being discovered and nothing else. For any collection of documents, when a pre-set vocabulary of terms is used to index the

⁷ Carter, Phillip and Karen Spitzer. The Use and Characteristics of Commodity Code Systems in U.S. Companies. Center for Advanced Purchasing Studies. Tempe, AZ.

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contents of each document, search precision is aided enormously. Simply using text string searches on such document collections leads to a great number of irrelevant hits. The same principle applies to pre-tagging product information records with a pre-set vocabulary of terms that has been developed by industry participants.

Facilitates expenditure analysis. When every purchase transaction of an enterprise is tagged with a common set of product identifiers, purchasing managers are able to analyze enterprise expenditures. With identifiers that are part of a hierarchical taxonomy, individual purchases can be rolled up into more generic categories (e.g. "safety glasses" can be rolled up into "shop supplies" or "industrial supplies"). This allows the purchasing group to:

- Consolidate suppliers to simplify and build strategic relationships. A handful of suppliers to fulfill most of the company's operational needs leads to efficiencies and improvements in deliveries, service, and settlement.
- Save 15% to 20% on total spending through volume purchasing agreements. By guaranteeing high volumes to a select group of suppliers, purchasing departments can obtain up to 20% discounts on prices. This equates to annual reductions of a company's overall spend by 20%.

Control and uniformity across the company. Codes bring a single, uniform view of all expenditures in a company. It ties together all departments and divisions, including business functions such as purchasing and settlement. It can be integrated with procurement card programs. Codes, because they can be used in information systems, are the essential component for streamlined control of the list of authorized items and vendors, approval workflows, and allocated dollars for expenditure.

For Marketing and Distribution

When the selling organization applies a standard "tag" on its products and services, that tag can be automatically processed by other computer applications such as Web search engines, ERP and purchasing software at customer sites and publishers, catalog aggregation software, software agents, and the like. With a single act of tagging, the manufacturer can rapidly propagate its commercial offering to the world.

Table 2. Classifying products and services to support sales and marketing.

Pros	Cons
Automatically register your product at Web search engines and catalog aggregators	Classifying your product along with competitors' allows customers to shop for lowest price
Keep customers satisfied by sending pre-coded catalog files	
Minimize ordering errors and returns and improve productivity in communicating with distribution channel	
Ability to benchmark market share	
Capture clean, consistent microdata from sales channel	
Stay current with market trends: standardized tags are inevitable evolution of electronic commerce	
One coding scheme that satisfies all customers	

Automatic dissemination and registration of product information. These techniques bring new opportunities (such as reaching a wider audience at less cost per thousand) and

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many perils (the risk of being missed in the noise or being seen as one more supplier of a commodity item). Some of the hallmarks of marketing in the era of electronic commerce include:

- Sending electronic product catalogs to your customers, distributors, and channel partners.
- Registering your products in search engines and third-party electronic marketplaces, product directories, and electronic trade magazines.
- Advertising your products and company using "meta data" XML tags.
- Preparing your Web site to interact with intelligent agents.

These applications and others require a common naming convention for products and services.

Distribution channel coordination. In addition to the benefits of an automatic propagation of product information to the world, coded product information helps coordinate a distribution channel. When a manufacturer sells its products through third parties such as distributors, independent sales representatives and dealers, resellers, and other channel partners, coordinating shipments with these partners and getting accurate inventory and sales information from them is critical to successful sales.

When the manufacturer and its channel partners use tagged catalogs and trade documents (such as purchase orders, sales and inventory advices, ship notices, and the like), the room for error decreases. Everybody is talking about the same products. There is no confusion. The manufacturer can get accurate sales and inventory data from its channel and make accurate production forecasts. Channel partners can make precise requests and orders for new and replacement products. The coordination of the channel increases.

Channel microdata enables better analysis. Classification of transactions within the channel also helps the manufacturer to data-mine activity records in the channel. This allows it to see where demand is rising or falling for specific products, categories, geographies, etc. If several competing manufacturers use the classification system, the manufacturers can get aggregated market share information by product code and category. Again, this helps the manufacturer understand and act more strategically in its channel.

Makes all products commodities? Designating your company's product with the same code used by your competitor seems equivalent to reducing your products to undifferentiated commodities. This is not the purpose. A common coding convention is simply the first step in getting your product information into the hands of people with an interest in the given kind of product. A common name for a given kind of product is the equivalent of organizing merchandise in a supermarket. All the cereal is in one section. Produce another. Beauty supplies in yet another. A common naming convention is the future of shelf space – it is the "virtual shelf space" of electronic commerce. And, like the power that brands play in the physical world, so too will they play a differentiating role in the non-physical world, along with other differentiators such as customer service, packaging, new product development, etc.

Classification versus Identification

Identification codes (examples are listed in Table 3) are different from classification codes and will not serve the purpose of product discovery, spend analysis, and product awareness.

Table 3. Common Identification Codes

<i>Code</i>	<i>Things Identified</i>
Social Security Numbers	People
UCC/EAN ("bar") codes	Products
Duns Numbers	Companies

Identification codes are used to make an unambiguous identification of a thing. The one-to-one correspondence between the code and the thing is very useful for recording and linking records of items and actions taken on the items (such as point-of-sale transactions, inventory management, record keeping).

Classification codes are used to group similar things into common categories. With classification, similar things are members of a class. Similar classes are members of yet a more general class or family, and so on. The relationship among things and the relationship of a thing to its class are information signals that are necessary for item discovery, spend analysis, and product awareness. In other words, classification codes are necessary for effectively searching and finding appropriate products and services, for identifying where expenditures are being made, and for promoting ones products to real buying prospects.

What's the difference? To illustrate the difference between identification versus classification, consider a bar code that identifies a Dell laptop computer. This identification code cannot be "rolled up" into a more generic category such as "computer equipment" and has no logical connection with codes designating Compaq, IBM, Toshiba, or any other brand of laptop computer. Identification codes, therefore, allow for no categorization of purchases into higher and more generic categories nor do they allow comparisons among different manufacturers. Chief differences between classification and identification are listed in Table 4.

Table 4. The differences between classification and identification codes

	Classification Code	Identification Code
<i>Cognitive Principle</i>	Indicates relation of item to other items, similar and dissimilar	Unambiguously identifies item.
<i>Key Code Characteristic</i>	Hierarchical	Uniqueness
<i>Digits of the code...</i>	Show classes and sub-classes in which item is member	Create a one-to-one correspondence between the symbol and item. (Digits have no other meaning.)
<i>Business Function</i>	Finding goods and services. Analysis of activities for further improvements.	Tracking and record keeping

Hierarchy is necessary

Only a hierarchical taxonomy of names and categories can provide "roll up," "drill-down," and comparability analysis and evaluation. A taxonomy organizes all the available goods and services into logical categories. It is critical that the taxonomy have several intermediary categories between the specific items and most generic classes.

The Characteristics of a Good Naming Convention

*"Thing" versus
"process
classifications*

Most commercial product classification systems are one of two types: those that classify things (including services) and those that classify processes that produce things. When the purpose is to discover products, to analyze spending patterns, or to increase the market awareness of a product, the classification scheme must adhere to the "thing" orientation (also called demand, commodity, or use orientation and opposite of a supply, process, or make orientation). A "thing" orientation organizes products and services according to how they are used as inputs, or purchasable items, for a buying organization.

A scheme for classifying goods and services as things must have a number of characteristics to enable users to get value from it. Key characteristics are listed below.

Hierarchical Taxonomy for "Drill Down" and "Roll Up" Analysis

A hierarchy allows searchers to "drill down" among a vast group of products and services to find precisely what they need. It also enables managers to "roll up" a vast group of purchase records into fewer more general "buckets" of transactions, and perform analysis that is relevant to the company's situation. Because it is hierarchical, a universal taxonomy of products and services can be useful to any kind of company.

For example, in analyzing spending patterns, a buyer at a manufacturing company will find the category name, "Industrial Supplies" as too general. The person will want to break out into more specific categories the spending on cleaners and solvents, shop floor supplies, safety equipment, and so forth. To a buyer at a magazine publisher or a financial services company, "industrial supplies" will be specific enough, because in toto it probably represents an insignificant amount of spending. No further break out is necessary.

On the other hand, the name "office supplies" may be specific enough for a manufacturer but not specific enough for the publisher and financial services company. In other words, specificity depends on the kind of company and its intentions. A classification hierarchy ensures that a company can find a meaningful level of analysis that will allow it to take action.

Hierarchy Enables Buyers to Find a Contractible Group

Because the coding scheme is hierarchical, the company can organize an entire group of purchase transactions by categories that allow it to take strategic action. Instead of concentrating on the minutiae of individual product transactions, it can aggregate transactions to a level that identifies a meaningful "contractible group," such as "office supplies" and/or a supplier of office supplies.

A contractible group is a single, self-contained family of products and/or supplier of a family of products that the buying enterprise can approach to negotiate a single point of supply. Because a single contract can cover the family/vendor, the enterprise can attain preferential treatment (including price discounts) in the contract.

Generally speaking, the company wants identifier specificity exactly at the level or breadth of scope that will allow it to identify a cost-saving course of action. The action may be a consolidation of suppliers, a supplier negotiation for a volume-purchase discount, or even an item substitution and/or elimination.

Unique Item Codes for Schema Modifications and Multi-Language Uses

In addition to the hierarchy itself, each specific name of the classification should have a unique number associated with it. This ensures that no ambiguity will exist as to what product or service the name refers. This is important when the classification system serves as the reference code for multi-language translations of product and service information. It also allows translation of the code into custom taxonomies devised for proprietary purposes.

For example, in a multinational company that wants to analyze spending across all divisions and geographies. If it uses product names that are indigenous to each country, there will be a proliferation of categories that cannot be reconciled easily to common groups. Using a single code and then translating off of this code eliminates this problem.

Also, a unique identification number of an item allows users to move items around within the classification hierarchy/taxonomy and not lose its identifying power. This is useful when companies want to modify the taxonomy to fit internal classification schemes/views of the data.

Finally, the names and organization of individual products and services into higher more general groups will change over time. There is quite an array of electronic components today when 40 years ago the category didn't exist. Unique numbers allow industries to migrate the classification scheme forward in time and keep a well documented trail of what items transformed into new items. In effect, unique numbers allow cross-referencing to insure consistency.

Scheme is Consistent

Consistency means that a single item is identified in one place only. It means that similar products can be rolled up into logical higher groupings. A consistent hierarchy allows for aggregation/disaggregation to the appropriate level of analysis without sacrificing accuracy.

Scheme is Complete

A good scheme identifies all buyable products and services and places all these items into a logical taxonomic hierarchy. Users of a classification demand that all relevant categories and all suppliers be explicitly represented by the classification scheme. This allows management to analyze and optimize.

Management of Scheme is Responsive to the Marketplace

New products and services are always coming out and others are becoming obsolete and discontinued. The coding scheme must have an administrative body that quickly and inexpensively accommodates changing market conditions.

Third-party agencies are the best candidates to manage the scheme. This insures accuracy, consistency, and integrity. A third party sees the whole product category and family in a uniform way so that for any given company's products, codes will be assigned that are accurate and consistent.

Because a third party has no incentive to differentiate a given product, it will provide greater integrity in classifying products than an individual manufacturer.

The UNPSC Classification

The UNPSC system is an open, global electronic commerce standard that provides a logical framework for classifying goods and services. The UNPSC is designed to serve three primary functions:

Resource Discovery - the identification of relevant suppliers of a specific product or service

Expenditure Analysis - reporting on the use of funds

Product Awareness - the integration of one's products or services into the common nomenclature that prospective customers use to search for products and services

Methodology

The UNPSC began as a merger between the United Nation's Common Coding System (UNCCS), itself based on the United Nations Common Procurement Code (CPC), and Dun & Bradstreet's Standard Product and Service Codes (SPSC). To merge the two existing coding systems, Dun & Bradstreet (D&B) and the Inter-Agency Procurement Services Office (IAPSO) within the United Nations Development Programme (UNDP) established a Code Transition Team. First, the team merged the UNCCS and the SPSC code structures. Next, they removed duplicate classifications to create the first draft UNPSC. The team then validated and enhanced the draft version using both procurement professionals and public documents (such as company catalogs, industry publications, and government publications). Then the team consulted industry experts to ensure accuracy and the common use of names, groups and definitions. Finally, the team verified the entire coding schema through commercial and public documents found primarily in collegiate libraries and the internet.

To further ensure coding completeness and accuracy, the UNPSC coding team cross-referenced the new UNPSC to a number of other classifications systems, including the Common Procurement Vocabulary (CPV), the Standard Industrial Classifications (SIC) and the Harmonized Tariff System (HTS).

The team documented commonly used terms to avoid the use of synonyms and to clarify the meaning for the many UNPSC customers. The definitions of the segments were worded carefully to be both inclusive of their sub-groups and exclusive of other segments and their sub-groups.

UNPSC: A Hierarchical Structure for Custom Analysis

The UNPSC is a hierarchical classification, having five levels. The levels allow users to search products more precisely (because searches will be confined to logical categories

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and eliminate irrelevant hits) and it allows managers to perform expenditure analysis on categories that are relevant to the company's situation.

Each level contains a two-character numerical value and a textual description as follows:

XX Segment

The logical aggregation of families for analytical purposes

XX Family

A commonly recognized group of inter-related commodity categories

XX Class

A group of commodities sharing a common use or function

XX Commodity

A group of substitutable products or services

XX Business Function

The function performed by an organization in support of the commodity

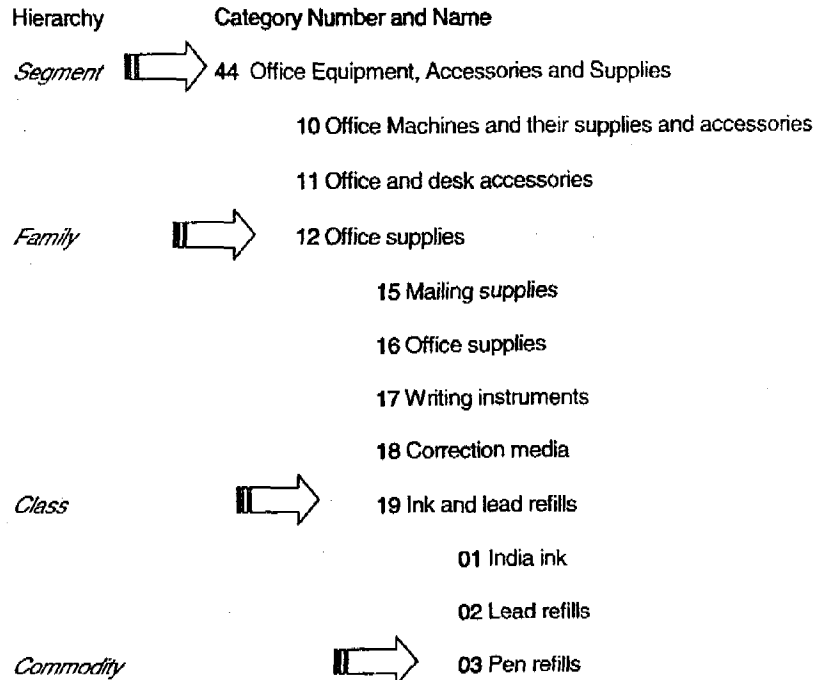
UNSPSC Examples

In the UNSPSC classification, products and services are placed within logical categories so that people can more easily find what they are looking for and evaluate expenditures on commonly grouped items.

For example, the commodity "pen refills" is part of a larger class of products, "Ink and lead refills", which in turn is part of a family of products, "Office supplies," which is itself part of a segment of products, "Office equipment, accessories, and supplies." Each level of the hierarchy has its own unique number.

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"Pen refills" = UNPSC classification 44-12-19-03.

The hierarchy allows people looking for pen refills to use the higher level terms to narrow their search to the relevant domain that will most likely lead them to the desired item.

In post facto analysis of spending, purchasing managers can evaluate expenditures according to any level of the hierarchy. Companies that use significant amounts of writing utensils and supplies, such as architectural, graphic arts, and printing companies, may want to analyze spending on the class or commodity levels. Such analysis will allow them to spot opportunities where they can consolidate suppliers, find better sources, negotiate volume discounts, and similar optimizations of their supply chain. Companies where these items are not a significant portion of their spending, may elect to analyze spending on the higher family and segment categories only.

The UNPSC can be further extended by adding a ninth and tenth digit after the commodity number. These numbers can indicate business relationships to the supplier such as rental/lease, wholesale, retail, or original equipment manufacturer (OEM).

UNPSC Design Rules for Consistency

In situations where there are many uses or many sources for the same commodity, the classification reflects the dominant use of the commodity within the global marketplace. Dominant use varies over time and by country or region. The first version of the UNPSC

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was developed in the USA and Norway. However, the intent of the development team was to reflect the international use of a commodity, not regional or industry-based applications.

Below are the basic design rules used in the development of the UNSPSC:

- As a first rule, a product or service is classified with others that serve or support a common function, purpose or task. These segments, families and classes of commodities are normally found in the same district, store or aisle.
- As a second rule, a product is classified with others made by a similar process and often manufactured by the same company or a similar company.
- Finally if the first two rules do not apply, then the material from which the product is made will help determine its classification.

The code is constantly being updated to better reflect the myriad of products and services on the market. Integral to the code is the active participation by companies and trade groups to keep the commodity items and categories current. The code's subsequent evolution is based on its many users as they request and approve code additions or code deletions.

UNSPSC Item Numbers for Schema Modification and Multi-Language Uses

Each level including the lowest "commodity" level of the UNSPSC hierarchy has a unique number assigned to it. For any given UNSPSC number, you can tell which segment, family, and class the particular commodity belongs to.

This allows companies to use the UNSPSC convention, but still be free to create their own taxonomies for their own purposes. With a unique numbering system, automatic translation from the UNSPSC coding scheme to another scheme is possible with off the shelf software tools (such as electronic data interchange "mapping software," data modeling tools, and even import-export functions on many personal productivity applications).

Also, having a unique number for a given commodity allows unambiguous translation of the commodity's description into any language. Different languages is a common problem in multinational companies that want to analyze spending on a worldwide basis. A given item will have several names, depending on the foreign language.

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Compared to Other Popular Codes

Many people ask, "why not use other code symbologies, such as the Uniform Code Council's (UCC) bar codes, the European Article Number (EAN) retail bar codes, or the United States' Standard Industrial Classification (SIC) codes?" The answer is that these code symbols are designed for other purposes than for product/service awareness, discovery, and expenditure analysis. They have none of the characteristics of a good naming convention as described in section 5.

The differences of some of the most popular commercial codes are outlined in Table 5.

Table 5. Various Codes for the Item "Battery"

Scheme Name	Code Instance	Chief Characteristics
SIC/NAICS	3-35-9-11 (Manufacturing Elect. Equip Other Battery)	<ul style="list-style-type: none"> Identifies broad industry, product, and service categories Too high level for effective spend analysis. Unable to drill down to contractible groups.
UCC/EAN	0-39800-08252-7 Type Manufacturer Item Check	<ul style="list-style-type: none"> Product identification code, not classification code (see section above) Identifies branded merchandise by manufacturer No item hierarchy; strictly used for identification
NIGP	11223344556	<ul style="list-style-type: none"> Used by local government purchasing agencies Maintains hierarchy Proprietary code (fee-based usage)
Internal/Proprietary	112-003-121 Division Department Expense Item	<ul style="list-style-type: none"> Proprietary codes only useful to a single company. Expensive to require trading partners to use same code. Not maintained. Limited or non-existent hierarchy
UNSPSC	26-11-17-09 Segment Family Class Commodity	<ul style="list-style-type: none"> Identifies product and service by category High specificity Multiple hierarchies allow aggregation/disaggregation to any relevant level of analysis

In addition to the symbologies shown in Table 5, there are many other symbologies including UNCCS, Harmonized System, Standard International Trade Classification, Community Procurement Vocabulary, NATO codes, and many industry specific codes.

Only the UNSPSC contains the key characteristics of a good naming convention as outlined in section 5. The other codes may contain some characteristics, but not all. For example, the United States' SIC code structure (to be superseded by the North American Industry Classification System by the year 2000) is hierarchical but not to the detailed level

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necessary for efficient search and analysis. Table 6 indicates the suitability (or not) of some of the popular code symbologies for product and service classification.

Table 6. Only the UNSPSC classification meets the requirements for marketing and procurement.

Code	Hierarchy	Classification or Identification Code?	Unique Numbers for Items	Consistency	Completeness	Responsive to Market – Time to get New Code Assigned
UNSPSC	✓	Classification	✓	✓	✓	✓Days
SIC/NAICS	✓ (hi level)	Classification	✓ (hi level)	✓	✓	5+ years
UCC/EAN		Identification	✓			Varies by Mfr.
NIGP	✓	Classification	✓	✓		Years
Internal	✓	Classification				Usually fixed

The retail bar codes of the UCC and EAN conventions have no hierarchies. Typically a manufacturer buys a block of numbers and assigns unique numbers within this block to its products. There are no general categories of products and service by which individual products and services are registered under. Thus, buyers cannot search by a category nor can they, post facto, perform analysis on spending according to categories.

Using and Getting Value from the UNSPSC Classification

Using the UNSPSC as a seller of products and services.

Assign codes to your product line when publishing electronically.

In the creation of web sites and paper catalogs, use UNSPSC to tag documents. You may use a third party to do this for you. Your catalog or web site authoring tools may have this capability.

Request a new code to be created from the UNSPSC Secretariat.

If you cannot find a code within the UNSPSC classification that applies to your product or service, you can request a new code to be standardized. Within three weeks of receiving your request you will either have a new code or will be instructed to use an existing code that the secretariat membership deems appropriate.

Join the UNSPSC Management Organization

This gives you voting and requesting privileges. Membership is currently free. (Subject to change with appropriate notice in the future)

Using the UNSPSC as a buyer of products and services.

Ask your suppliers to use the code in product information and transactions.

If you conduct commerce electronically with your suppliers, request that they use the UNSPSC in all product information and transaction exchanges. If they transmit product information to you electronically (including catalogs or web sites), ask them to have a

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UNSPSC code assigned to each product or service by a certified third-party. If you exchange electronic purchase orders, invoices, ship notices, and other transaction messages, ask the supplier to insert the UNSPSC to identify every line item.

Ask technology and software vendors to incorporate the UNSPSC into systems.

The UNSPSC can be embedded in resource planning, purchasing, accounting, database, and other systems so that stored lists of materials (material masters, bill of material lists, etc.) are automatically coded with the UNSPSC.

Assign the codes to existing record archives.

This can be done with inexpensive software tools or hiring a third party to come in and do it for you.

Findings

- Electronic product information that uses standardized product codes facilitates commerce among manufacturers, their customers, and distribution channel partners.
- Product codes facilitate buying functions by giving structure and precision to product searches and by enabling purchasing managers to analyze purchasing activities by varying levels of category.
- Purchasing managers can reduce expenditures on non-production purchases by as much as 20%. The first step in achieving these savings, however, is coding all purchase activity with a common classification of products and services.
- Product codes facilitate sales and distribution functions by automatically propagating a company's product information to customers, information aggregators, and Web search engines. Product codes embedded in electronic documents are the future of "shelf space" in the era of electronic commerce.
- Many identification code symbologies (such as UCC and EAN bar codes) were not designed to support product awareness, discovery, and spend analysis. These codes incorporate no hierarchy. Therefore, comparisons among different vendors for a similar product or rolling up transaction line-items into larger groups (for effective analysis) is impossible.
- The United Nations Standard Products and Services Code is a symbology specifically designed for assisting the commercial activities of product awareness, discovery, and spend analysis. Jointly developed by the United Nations and Dun & Bradstreet, the UNSPSC incorporates a hierarchy of categories, is easy to customize, is easily amended to accommodate new products and services, and retains a straightforward naming process to insure consistency of classification.
- Third parties that assign the codes to products and services will provide higher quality data. Third parties, compared to codes assigned by individual manufacturers, are generally more accurate, unbiased, and trustworthy.

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Recommendations

- All companies should consider using the United Nations Standard Products and Services Code as a routine matter of business.
- Marketing and sales organizations should endeavor to mark-up electronic catalogs, invoices, and other commercial documentation with the UNSPSC.
- Purchasing departments should incorporate the codes in purchasing systems to assist employees throughout the company to find and purchase supplies and, for themselves, to analyze the supplies expenditures of the company.
- To use the codes, use third party coding services to insure data integrity and accuracy.
- If a company wants to actively participate in developing the UNSPSC, they must register as a member at www.unspsc.net. Further, if a member also registers as Segment Technical Advisor, they will have equal voting power in developing and maintaining the UNSPSC.

Bibliography

Economic Classification Policy Committee. Issues Paper No. 1, Conceptual Issues. Bureau of the Census. February 1993. www.census.gov/epcd/naics/issues1

Business-to-Business Electronic Catalogs: Market Requirements and Solutions. Granada Research. San Francisco, CA. January 1998. www.granadaresearch.com

Join the UNSPSC Standards Group and submit code addition or code deletion requests as well as join the Segment Technical Advisors through the UNSPSC web site www.unspsc.net

Carter, Phillip, and Karen Spitzer. The Use and Characteristics of Commodity Code Systems in U.S. Companies. Center for Advanced Purchasing Studies. Tempe, AZ. 1997. www.napm.org

RosettaNet – An Overview. www.rosettanet.org

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About Granada Research

Granada Research is a consultancy based in Bodega Bay, California that specializes in business-to-business content-driven commerce systems including indirect procurement applications, Web and other electronic catalog systems, third-party content services, and service and repair document management systems.

Through publications and newsletters, consulting engagements, and retained advisory services, Granada Research assists companies in evaluating opportunities, planning for market and technology trends, and designing & selecting appropriate information solutions.

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effective_v ersion	change _type	changed_v ersion	changed_i d	changed_cod e	changed_title	map_lo	edit_type	move_lo	effective_id
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7.0901 edit	7.0401	105275	45111603	Projection screens	m 105275
7.0901 edit	7.0401	108448	76111500	General building and office cleaning servic	m 108448
7.0901 edit	7.0401	110029	94101809	Personal assistance services	m 110029

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14111818	Thermal paper	09.01.2004
23171907	Electroplating racks	09.01.2004
23171908	Physical vapor deposition PVD Racks	09.01.2004
23201203	Fluidbed dryers	09.01.2004
26121542	Installation wire	09.01.2004
26121543	Heat resistant wire	09.01.2004
26121638	Crimping materials	09.01.2004
26121639	Combined or customized multi cables	09.01.2004
26121640	Heat resistant cables	09.01.2004
26121641	Installation cables	09.01.2004
39101619	Compact fluorescent CFL lamps	09.01.2004
39111522	Pendant lighting	09.01.2004
39112100	Optical lighting	09.01.2004
39112101	Fiber optic lighting	09.01.2004
39112102	Light emitting diode LED optic lighting	09.01.2004
39121021	Servo drives	09.01.2004
39121022	Electronic transformers	09.01.2004
39121208	Cable ladders	09.01.2004
39121620	Transient protection materials	09.01.2004
39121800	Intelligent Building Installations IBI	09.01.2004
39121801	Controlling units or devices	09.01.2004
39121802	Inactive units or devices	09.01.2004
41106516	Enzyme expression consumables	09.01.2004
43191511	IP phones	09.01.2004
43191512	Digital enhanced cordless telecommunications DECT cordless phones	09.01.2004
43191631	Phone or modem jack adapters or country kits or travel kits	09.01.2004
43201554	Personal computer television PC TV tuners	09.01.2004
43201555	PC radio tuners	09.01.2004
43201556	Small computer system interconnect SCSI adapters	09.01.2004
43201557	Redundant array of independent disks RAID controllers	09.01.2004
43201558	Fibre channel controller	09.01.2004
43201816	Ultra density optical UDO drives or autoloaders or libraries	09.01.2004
43202006	Magneto Optical MO disks	09.01.2004
43202007	High capacity removable media blank disks	09.01.2004
43202008	Ultra density optical UDO blank disks	09.01.2004
43211610	Computer country or localization kits	09.01.2004
43211611	Handheld PDA Starter Kits	09.01.2004
43211906	Character displays	09.01.2004
43211907	Head mounted displays	09.01.2004
43222633	Remote management adapters	09.01.2004
43222634	Network management or monitoring device	09.01.2004
43232505	Multi-media educational software	09.01.2004
43232506	Encyclopedia software	09.01.2004
44103123	Plotter pens	09.01.2004
44103124	Thermal ribbon	09.01.2004
52161545	Digital video recorders	09.01.2004
52161546	Television tuners	09.01.2004

56112200 Desking systems	09.01.2004
56112201 Desk based screens	09.01.2004
56112202 Desk storage components	09.01.2004
56112203 Desking organizational components	09.01.2004
56112204 Worksurfaces	09.01.2004
56112205 Lighting, power or data components	09.01.2004
56112206 Desking systems related parts and accessories	09.01.2004
76111506 Interior plant landscaping services	09.01.2004
45111609 Multimedia projectors	09.01.2004
41115409 Nuclear magnetic resonance spectrometers	09.01.2004
41113034 pH test strips or papers	09.01.2004
80111608 Temporary information technology software developers	09.01.2004
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12352502 Glutarals	09.01.2004
13111066 Polyterpene resins	09.01.2004
23172015 Threading machine attachments	09.01.2004
42203410 Cardiovascular catheter protector sleeves	09.01.2004
41115409 Nuclear magnetic resonance NMR spectrometers	09.01.2004
45111603 Projection screens or displays	09.01.2004
76111500 General building and office cleaning and maintenance services	09.01.2004
94101809 Personal assistance service unions	09.01.2004